

What is claimed is:

1. An electrocoat (EC) material comprising bismuth
5 compounds, comprising

(A) at least one self-crosslinking and/or externally
crosslinking binder containing (potentially) cationic
or anionic groups and reactive functional groups which

10 (i) with themselves or with complementary
reactive functional groups in the self-
crosslinking binder, or

(ii) in the case of the externally crosslinking
15 binder, with complementary reactive
functional groups present in crosslinking
agents (B)

are able to undergo thermal crosslinking reactions,

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(B) if desired, at least one crosslinking agent
comprising the complementary reactive functional
groups, and

25 (C) at least one bismuth compound.

2. The material as claimed in claim 1, comprising,
based on its solids, from 0.05 to 4% by weight of
bismuth compound (C).

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3. The material as claimed in claim 1 or 2, wherein
the bismuth compounds are bismuth carboxylates.

4. The material as claimed in claim 3, wherein the bismuth carboxylates are formed from carboxylic acids selected from the group consisting of aliphatic carboxylic acids and aromatic carboxylic acids.

5. The material as claimed in claim 4, wherein apart from the carboxylic acid group the aliphatic carboxylic acids contain no other functional group.

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6. The material as claimed in claim 4 or 5, wherein the bismuth compound (C) is bismuth ethylhexanoate.

7. The material as claimed in claim 4, wherein the bismuth compound (C) is bismuth subsalicylate.

8. The material as claimed in claim 7, wherein the bismuth subsalicylate (C) has a bismuth content of from 56 to 60% by weight.

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9. The material as claimed in any of claims 1 to 8, wherein the binder (A) contains (potentially) cationic groups.

10. The material as claimed in any of claims 1 to 9, wherein the reactive functional groups are hydroxyl groups.

11. The material as claimed in any of claims 1 to 10, wherein the complementary reactive functional groups are blocked isocyanate groups.

12. The material as claimed in any of claims 1 to 11, wherein the crosslinking agents (A) are blocked polyisocyanates.

5 13. The material as claimed in any of claims 1 to 12, comprising at least one additive (D).

14. The material as claimed in claim 13, wherein the additive (D) is a pigment.

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15. The material as claimed in claim 14, wherein the pigments (D) are selected from the group consisting of color pigments, effect pigments, electrically conductive pigments, magnetically shielding pigments, fluorescent pigments, extender pigments, and anticorrosion pigments, are organic and inorganic.

16. A process for preparing an electrocoat material as claimed in any of claims 1 to 15, which comprises adding at least one bismuth compound selected preferably from the group consisting of bismuth carboxylates to a conventional electrocoat material.

17. The process as claimed in claim 16, wherein the bismuth compound has been selected from the group consisting of bismuth ethylhexanoate and/or bismuth subsalicylate.

18. The use of an electrocoat material as claimed in any of claims 1 to 15 for producing electrocoats and/or multicoat paint systems by wet-on-wet techniques.